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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,185	11/29/2001	Albert Rabinovich	EH-10417	1030
30188	7590	08/20/2004	EXAMINER	
PRATT & WHITNEY 400 MAIN STREET MAIL STOP: 132-13 EAST HARTFORD, CT 06108			YEE, DEBORAH	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/683,185	Applicant(s) RABINOVICH ET AL.	
	Examiner Deborah Yee	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10,12-33,37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) 34-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10,12-33,37 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-3,5-10 and 12-33 in the reply filed on June 3, 2004 is acknowledged. The traversal is on the ground(s) that the restriction is improper because the inventions are not shown to be independent or distinct and that a serious burden on the Examiner does not exist. This is not found persuasive because of the following reasons:
2. Group I, claims 1-3,5-10 and 12-33, is directed to an apparatus and process of cooling a material having a first section and a second section by impingement cooling said first section with a fluid to increase a cooling rate of said first section relative to a cooling rate of said second section.
3. Group II, claims 34 to 36, is directed to a method of quenching a nickel alloy by impingement cooling and reducing said cooling at the exit temperature range of a ductility trough.
4. Group I is independent and distinct from Group II because different process steps are recited with different objectives. Group I requires localized or zone cooling in two different sections with different cooling rates whereas Group II is directed to cooling a nickel alloy in one section as it exits and at one rate .
5. Moreover group I is classified in class 148/644 whereas group II is classified in class 148/675. Hence Group I and II have separate classification, separate status in the art, and different field of search.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-10, 12-33, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunge (US Patent 6,394,793).

Response to Arguments

8. Applicant's arguments filed June 3, 2004 have been fully considered but they are not persuasive.

It was argued that Bunge does not disclose impingement cooling simply because he uses a compression gas at different pressures, and that higher pressure does not necessarily suggest higher cooling rate. It is the examiner's position that Bunge on lines 20-25 in column 8 discloses faster cooling with compressed air up to 100psig which is similar to the present invention because applicant's specification on pages 7 and 8, paragraph 48 discloses faster cooling rates are achieved with compressed air at pressures of 45 and 75 psig. Since compressed air with similar cooling pressures are used, then present invention would not patentably distinguish over prior art.

It was argued that Bunge fails to disclose or suggest that the cooling step produces heat transfer coefficients greater than those created by oil bath quenching. In fact, Bunge appears to suggest the opposite since figure 4 of

Bunge provides cooling rates for oil bath quenching and Figure 5 of Bunge provides cooling rates for air quenching, and the rates for oil bath quenching are higher than for air quenching. It is the examiner's position that this is merely applicant's statement without any convincing evidence. To distinguish claims 31-33 over prior art, applicant will need to submit a declaration to show that cooling rates are equivalent and correlate with heat transfer coefficients, and to convert cooling rate to heat transfer coefficient to show that heat transfer coefficients of Bunge are not greater than those created by an oil bath quenching.

In regard to newly submitted claim 37, Bunge teaches a method of cooling a metallic work piece which can broadly include Ni alloy.

In regard to newly submitted claim 38, Bunge on lines 25 to 35 can control impingement cooling rate depending on pressure values and the type of cooling medium, and to reduce cooling rate when alloy exits would be a matter of choice well within the skill of the art and obvious to incorporate with the Bunge method.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

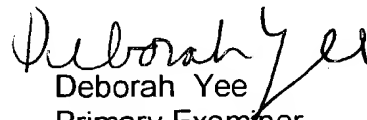
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Deborah Yee
Primary Examiner
Art Unit 1742

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